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2. (*Amended*) The method according to claim 1, wherein the method further comprises choosing a cost function and wherein the routing calculations minimize the cost function.

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3. (*Amended*) The method according to claim 1, wherein a routing calculation for a given number of compressions comprises, at a node where the number of compressions from the source node is equal to the given number, seeking and saving for a subsequent routing calculation adjacent links on which compression is used.

4. (*Amended*) The method according to claim 1, wherein a routing calculation for a given number of compressions uses the Dijkstra algorithm and verifies the number of compressions when adding a node to the route.

5. (*Amended*) The method according to claim 1, wherein the network further comprises overflow links to an external network, said method further comprises at least two overflow routing calculations for a given number of overflows and for a given number of compressions, said overflow routing calculations comprising a first overflow routing calculation for a number of overflows less than said given number, and a second overflow routing calculation for a number of overflows and a given number of compressions using information obtained from said first overflow routing calculation .

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Cont.

6. (*Amended*) The method according to claim 5, wherein the method further comprises choosing a cost function representative of the cost of overflows and wherein the routing calculations minimize the cost function.

7. (*Amended*) The method according to claim 5, wherein the routing calculations are effected for a given number of overflows by varying the number of compressions and then by varying the number of overflows.

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**Please add the following new claims:**

8. (*New*) The method according to claim 6, wherein the cost function accounts for occupancy of resources in the network.

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9. (*New*) The method according to claim 8, wherein the cost function accounts for charges incurred because of overflows.

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10. (*New*) A method of routing between a source node and a destination node in a network having nodes connected by links, wherein compression is used on at least one of said links, wherein the method comprises:

performing a first routing calculation with no compressions;

performing a second routing calculation for a number of compressions less than a given number of compressions; and

performing a third routing calculation for the given number of compressions using information obtained from the first and second routing calculations.

11. (New) The method according to claim 10, wherein the method further comprises choosing a cost function and wherein the routing calculations minimize the cost function.

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12. (New) The method according to claim 10, wherein a routing calculation for a given number of compressions comprises, at a node where the number of compressions from the source node is equal to the given number, seeking and saving for a subsequent routing calculation adjacent links on which compression is used.

13. (New) The method according to claim 10, wherein a routing calculation for a given number of compressions uses the Dijkstra algorithm and verifies the number of compressions when adding a node to the route.

14. (New) The method according to claim 10, wherein the network further comprises overflow links to an external network, said method further comprises:

a fourth routing calculation for a number of overflows less than a given number of overflows;  
and

a fifth routing calculation for the given number of overflows and a given number of compressions using information obtained from said fourth routing calculation.

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15. (New) The method according to claim 14, wherein the method further comprises choosing a cost function representative of the cost of overflows and wherein the routing calculations minimize the cost function.

16. (New) The method according to claim 14, wherein the routing calculations are effected for a given number of overflows by varying the number of compressions and then by varying the number of overflows.

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